

ABSTRACT OF THE DISCLOSURE

The invention includes methods of forming conductive metal silicides by reaction of metal with silicon. In one implementation, such a method includes providing a semiconductor substrate comprising an exposed elemental silicon containing surface. At least one of a crystalline form TiN, WN, elemental form W, or SiC comprising layer is deposited onto the exposed elemental silicon containing surface to a thickness no greater than 50 Angstroms. Such layer is exposed to plasma and a conductive reaction layer including at least one of an elemental metal or metal rich silicide is deposited onto the plasma exposed layer. At least one of metal of the conductive reaction layer or elemental silicon of the substrate is diffused along columnar grain boundaries of the crystalline form layer effective to cause a reaction of metal of the conductive reaction layer with elemental silicon of the substrate to form a conductive metal silicide comprising contact region electrically connecting the conductive reaction layer with the substrate. Other aspects and implementations are contemplated.